Movie Studio Analysis

Microsoft Movie Studio Feasibility Study Using EDA

Presented by: Vivian King'asia

Last updated: 21st May, 2020

AGENDA

- Introduction
- Questions to be answered
- Solution Process
- Data Analysis
- Key Findings
- Recommendations
- Conclusion

Introduction

- Microsoft wants to open a movie studio.
- There is inadequate knowledge about the movie industry and factors influencing the success of movie studios.
- An exploratory data analysis was conducted in this study.
- Different genres of movies were explored.
- Top movie studios in the industry were explored.
- Relationships between various variables were explored.
- Recommendations have been provided at the end of analysis.

Questions to be Answered

- What are the biggest competitors in the industry?
- What are the most profitable genres to invest in?
- Does ratings affect box office earnings and profitability?
- Are there differences in preferences in genres domestically and internationally?
- What has been the performance of the industry over the years in terms of profit?
- What is the relationship between production budget and earnings as well as profitability?
- Does movie runtime affect box office earnings and profitability?

Solution Process

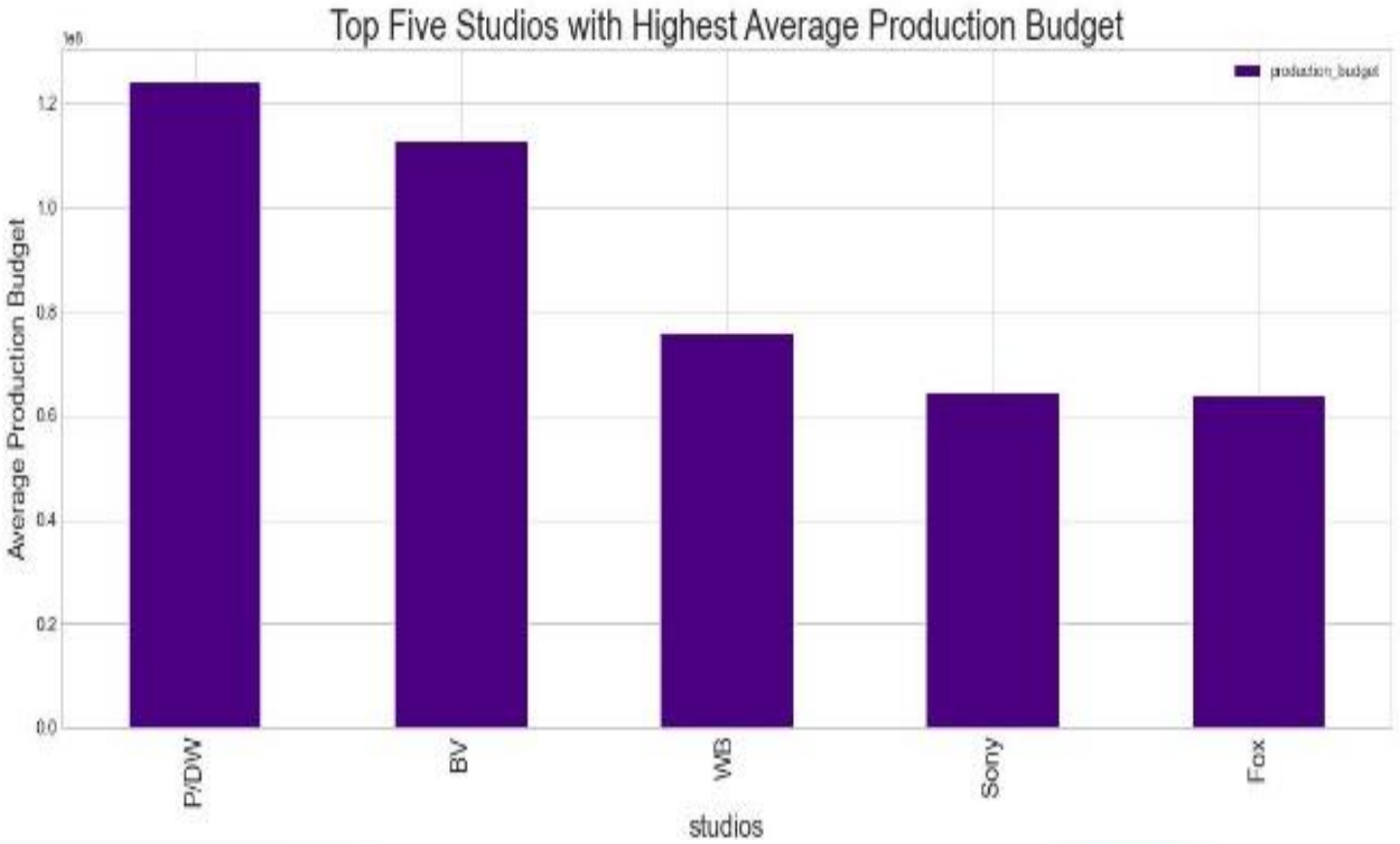
- Four datasets were used.
- The bom movie gross dataset contained the title of movie, name of studio, year published, domestic gross earnings and foreign gross earnings.
- The title.basics dataset contained movie titles, genres, years published and runtime in minutes.
- The title.ratings dataset contained the average rating and number of votes casted for movies.
- The tn.movie_budgets dataset contained the release date of the movie, title, production budget, domestic gross earnings and worldwide gross earnings.
- The four datasets were merged after preliminary cleaning.

Data Analysis

- Unnecessary columns like extra title column, extra year columns as well as duplicated columns were dropped from the data frame.
- All datasets were merged using an inner join to get values of shared columns and reduce null values in the final dataset.
- To achieve uniformity, some columns were renamed.
- Duplicated rows were also removed from the data frame after merging all datasets.
- Production budget, domestic gross and worldwide gross columns were converted to numerical columns.
- Punctuations were also removed to facilitate conversion to numerical columns for the above named columns.
- A box plot was used to determine outliers and missing values in the data frame.
  - Missing values in categorical column were filled with values from the following row.
  - Missing values in numerical column were filled with median value for the column.
  - A total gross earnings column and profit columns was calculated and included.

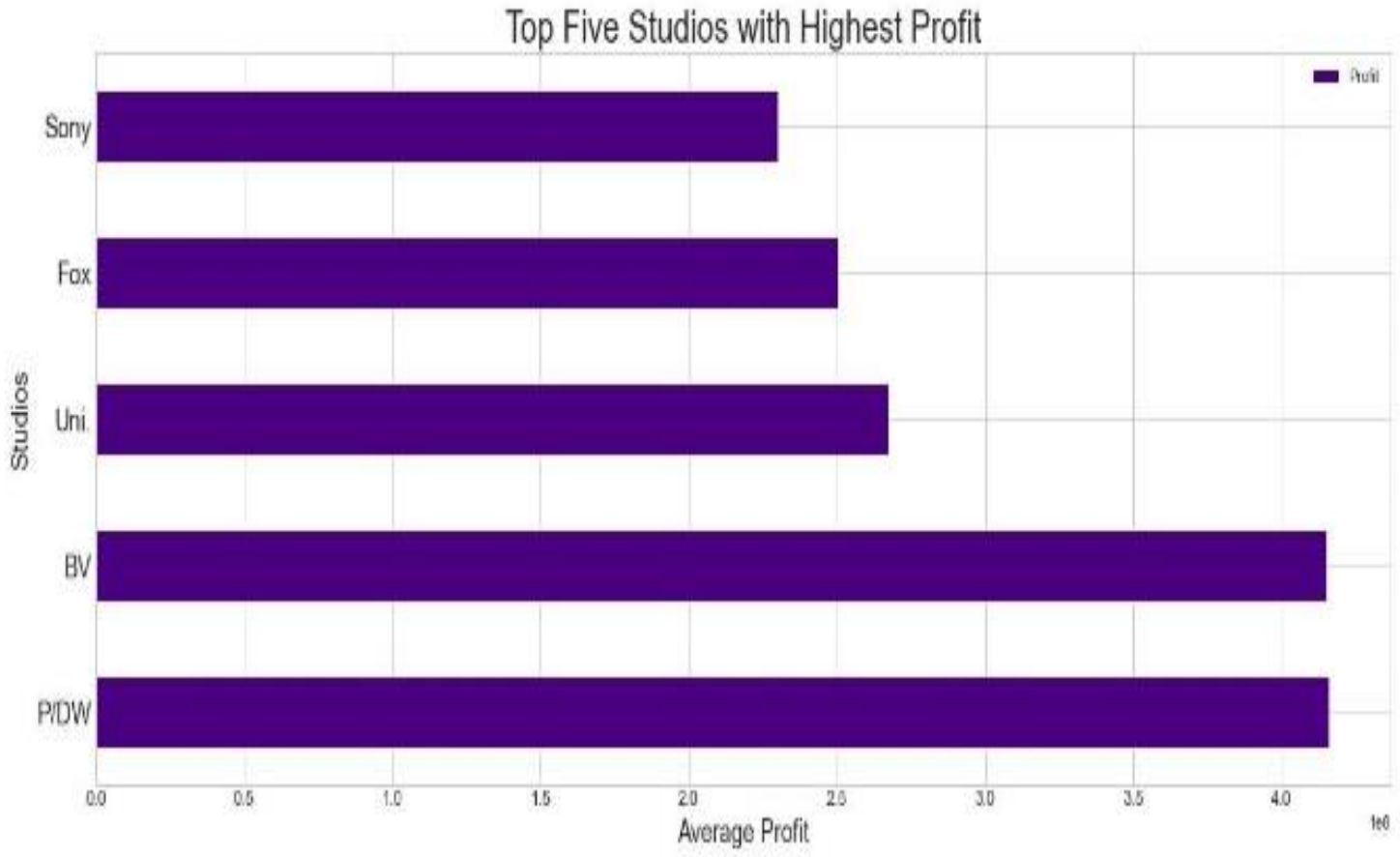
Key findings

Studios: Comparing budgets and profit for Top studios



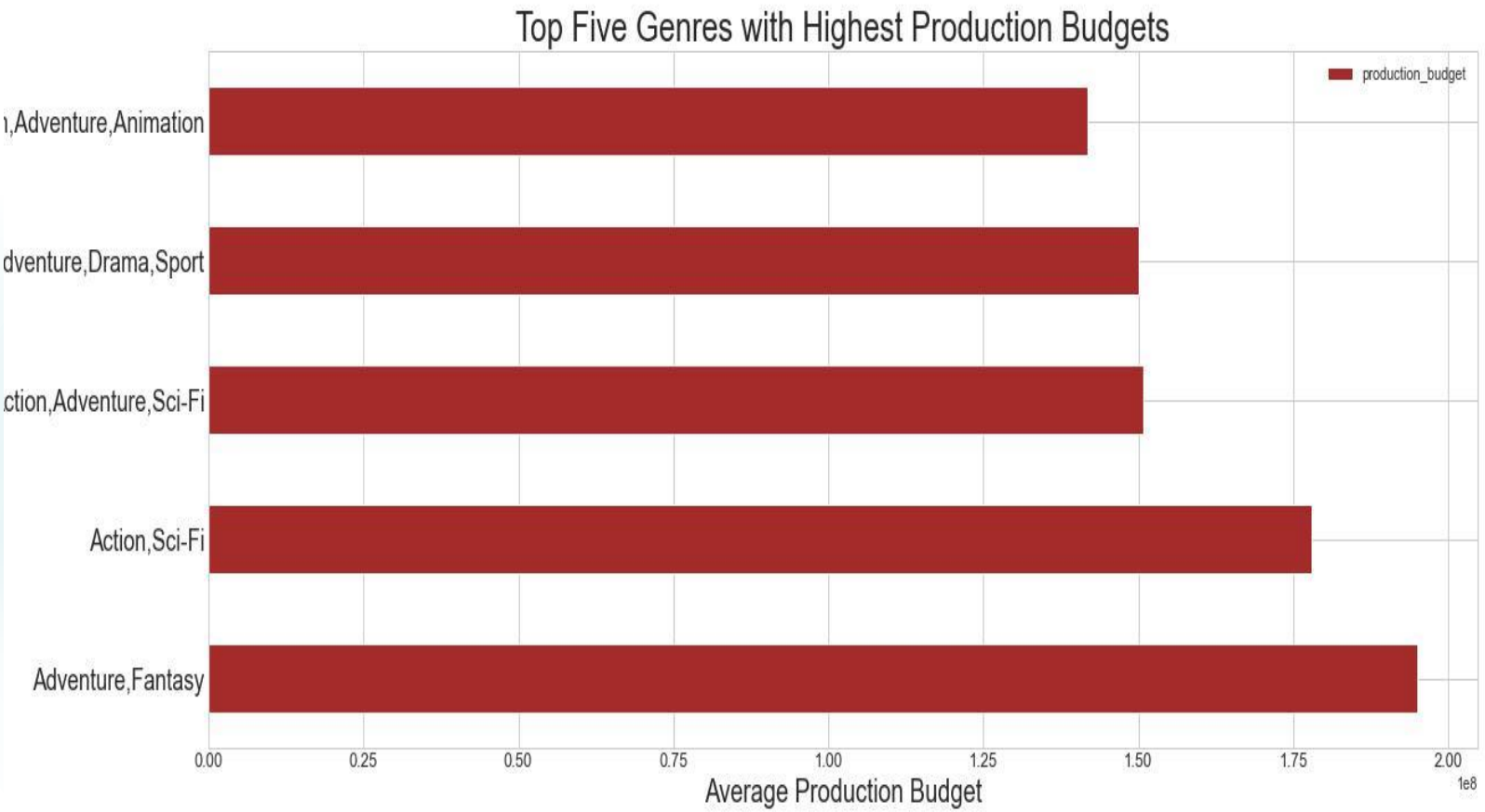
Key findings

Studios: Comparing budgets and profit for Top studios



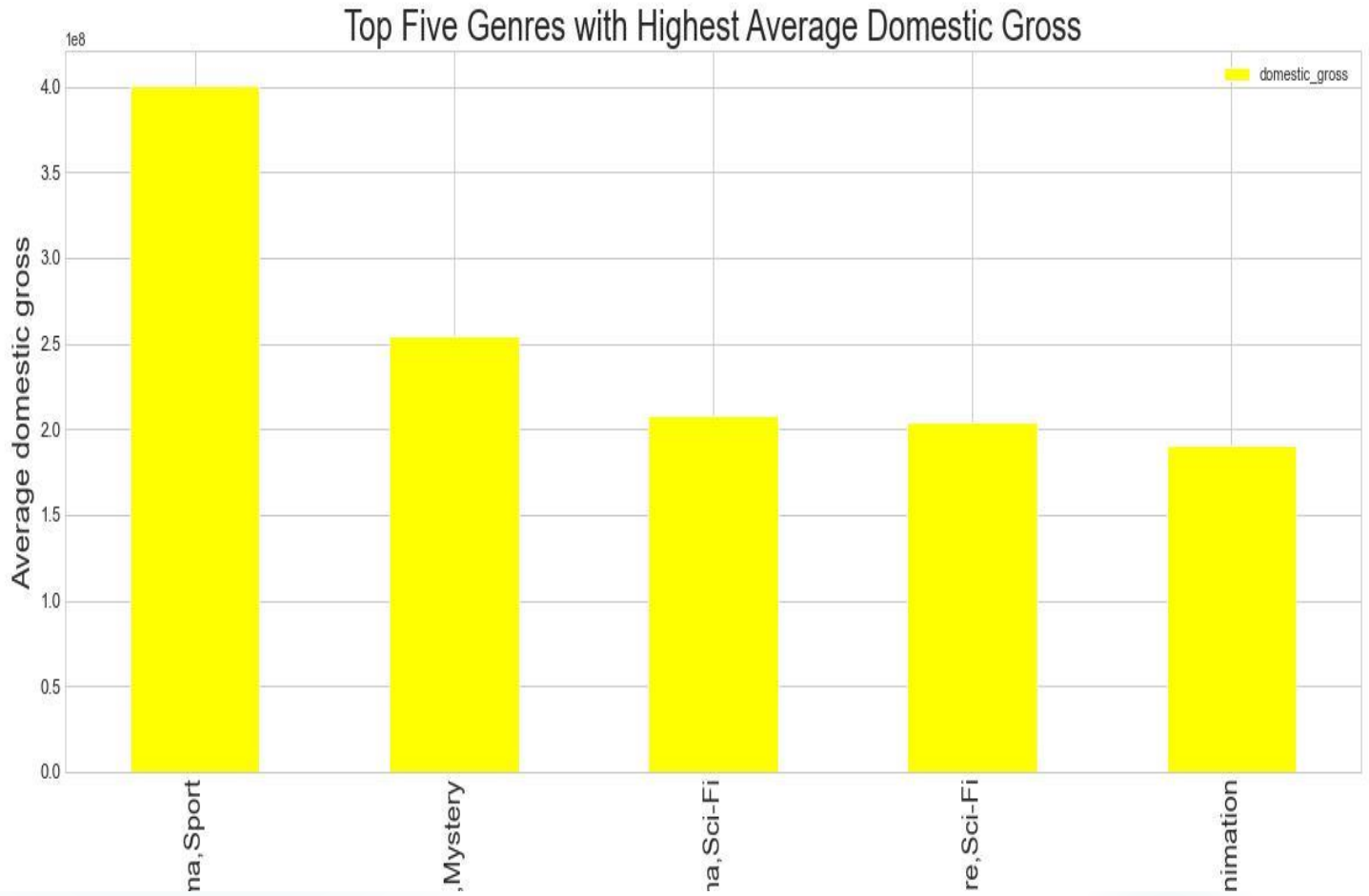
Key Findings

Genres



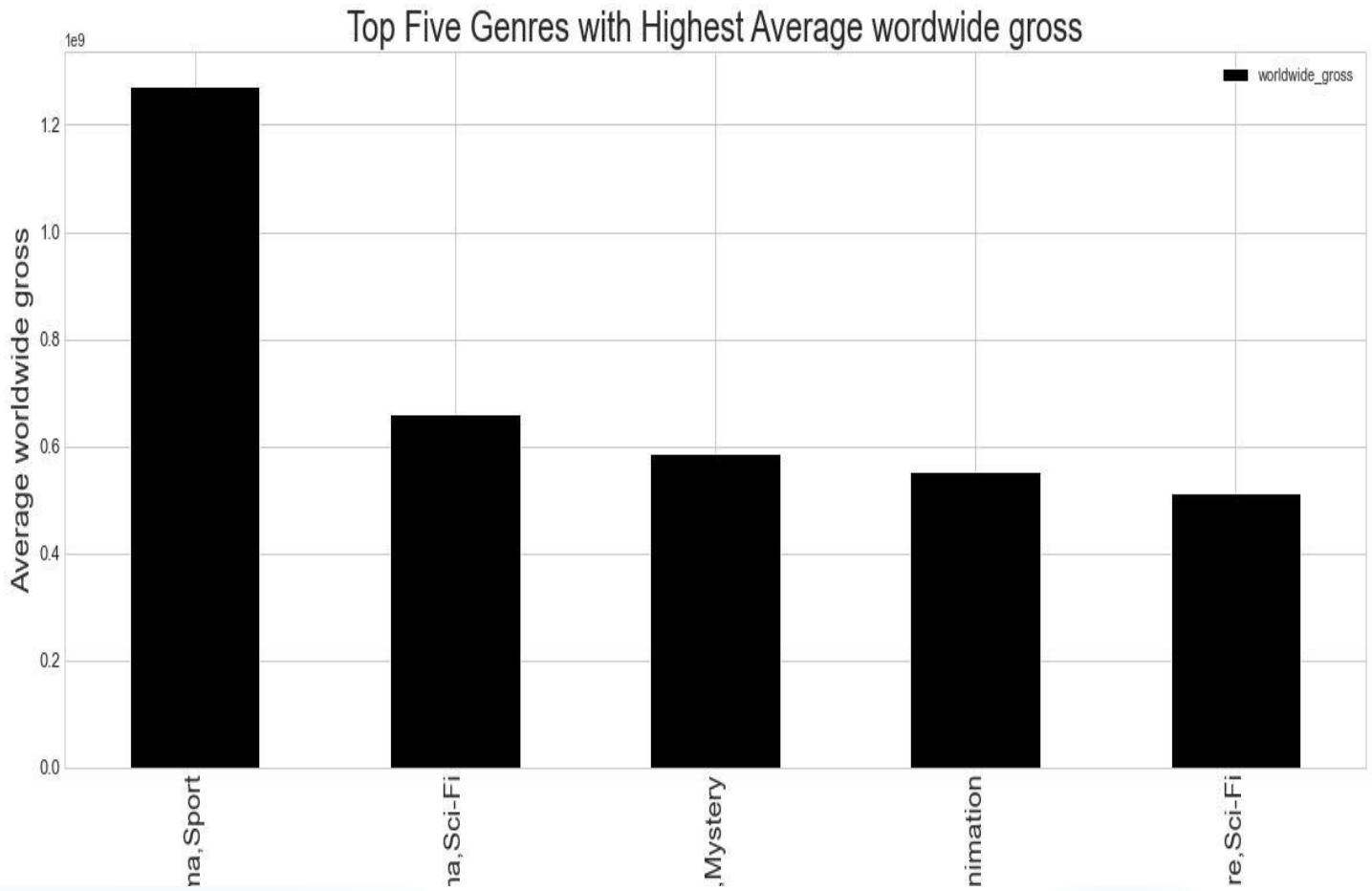
Key Findings

Genres



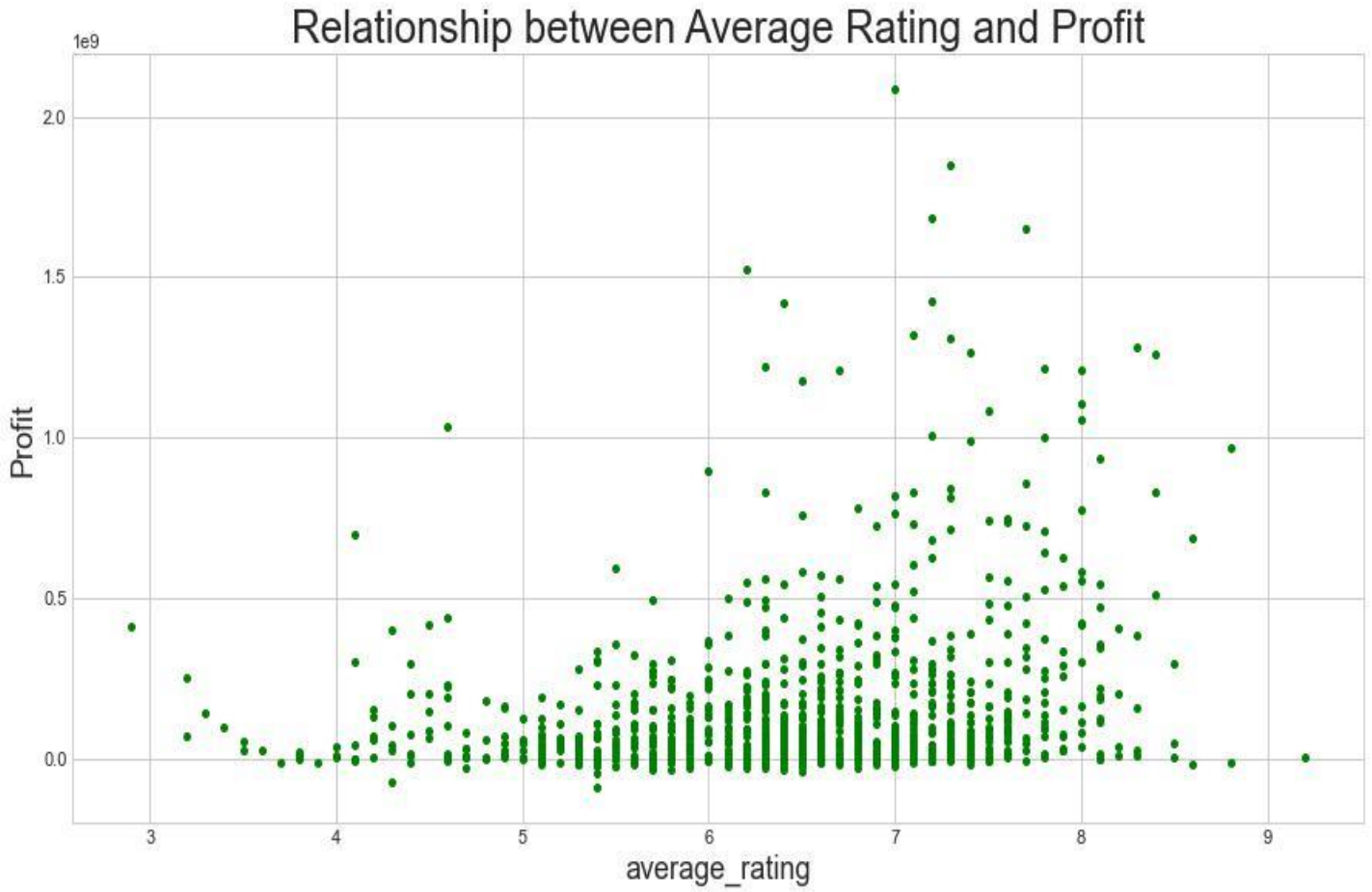
Key Findings

Genres



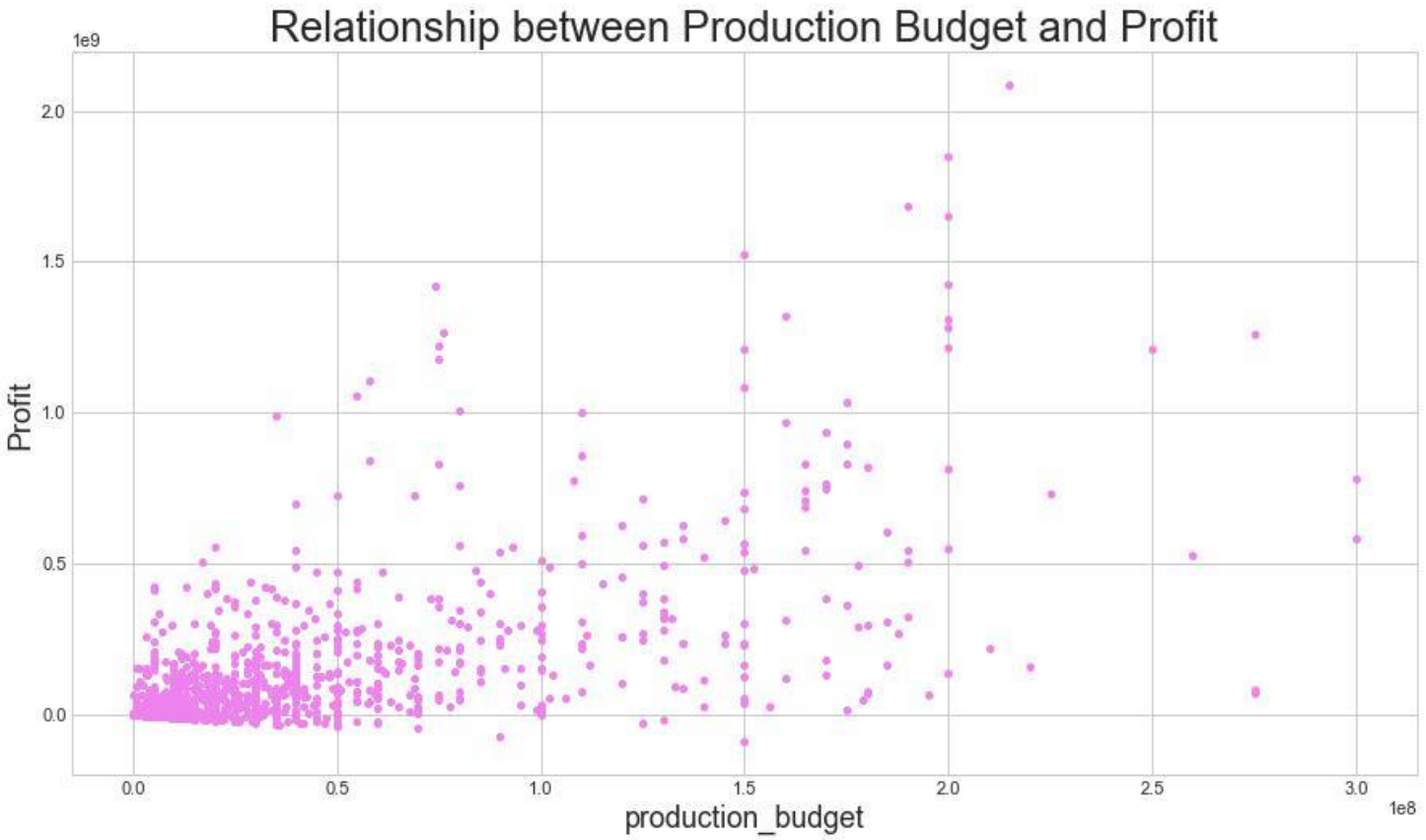
Key Findings

Relationship between ratings and profit: No correlation



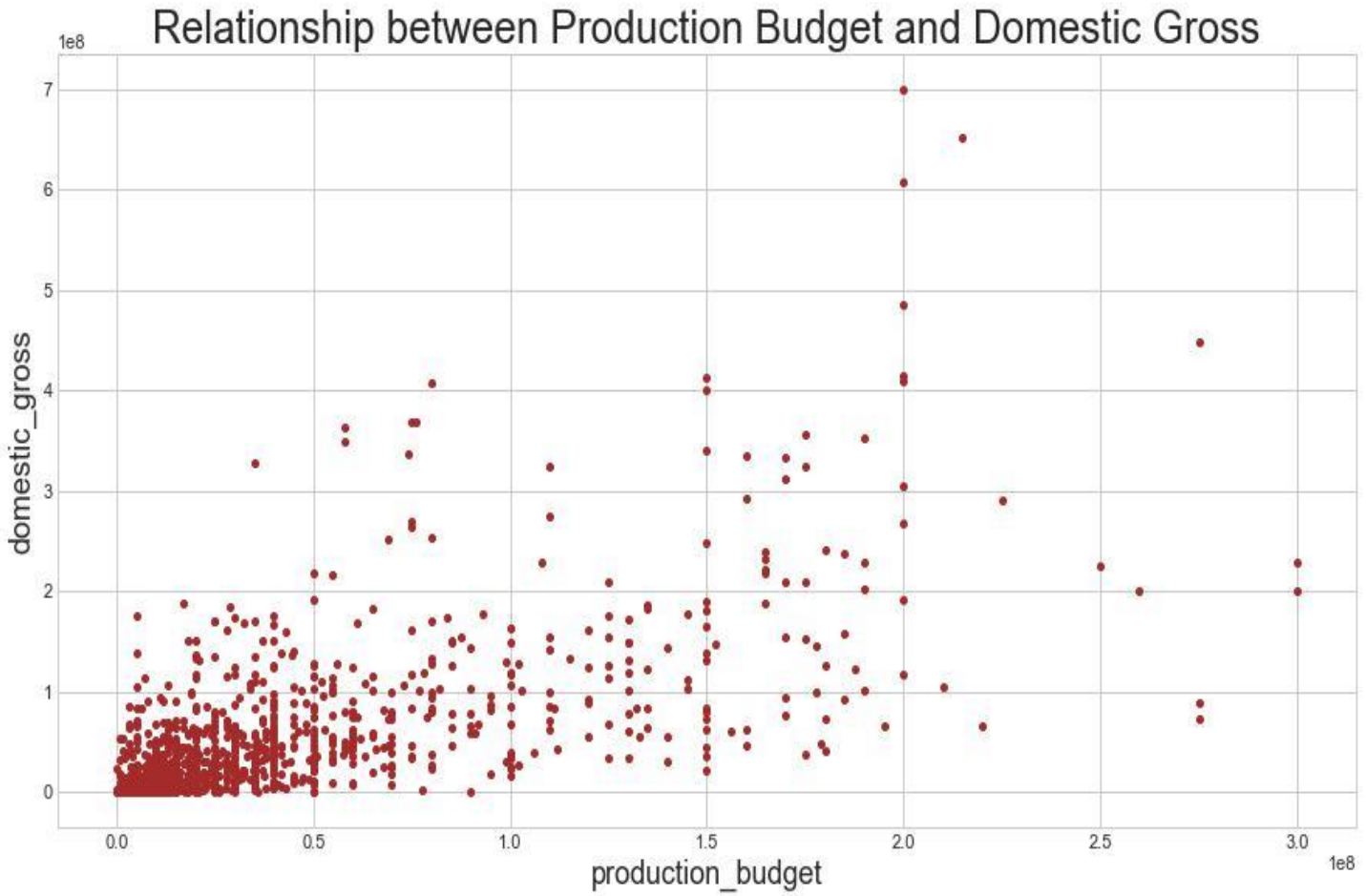
Key Findings

Relationship between budget and Profit: weak to no correlation



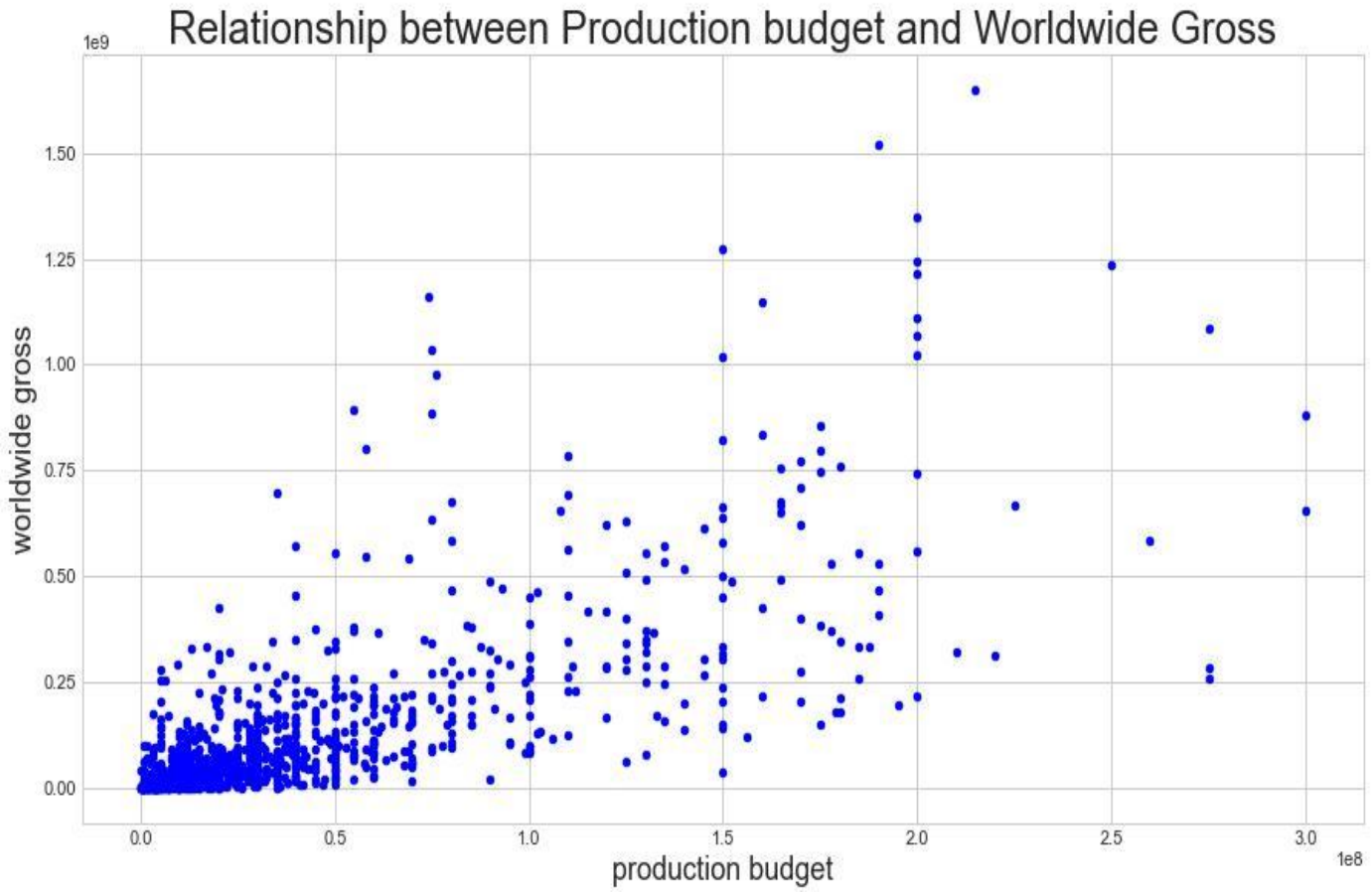
Key Findings

Relationship between budget and domestic gross: weak positive correlation



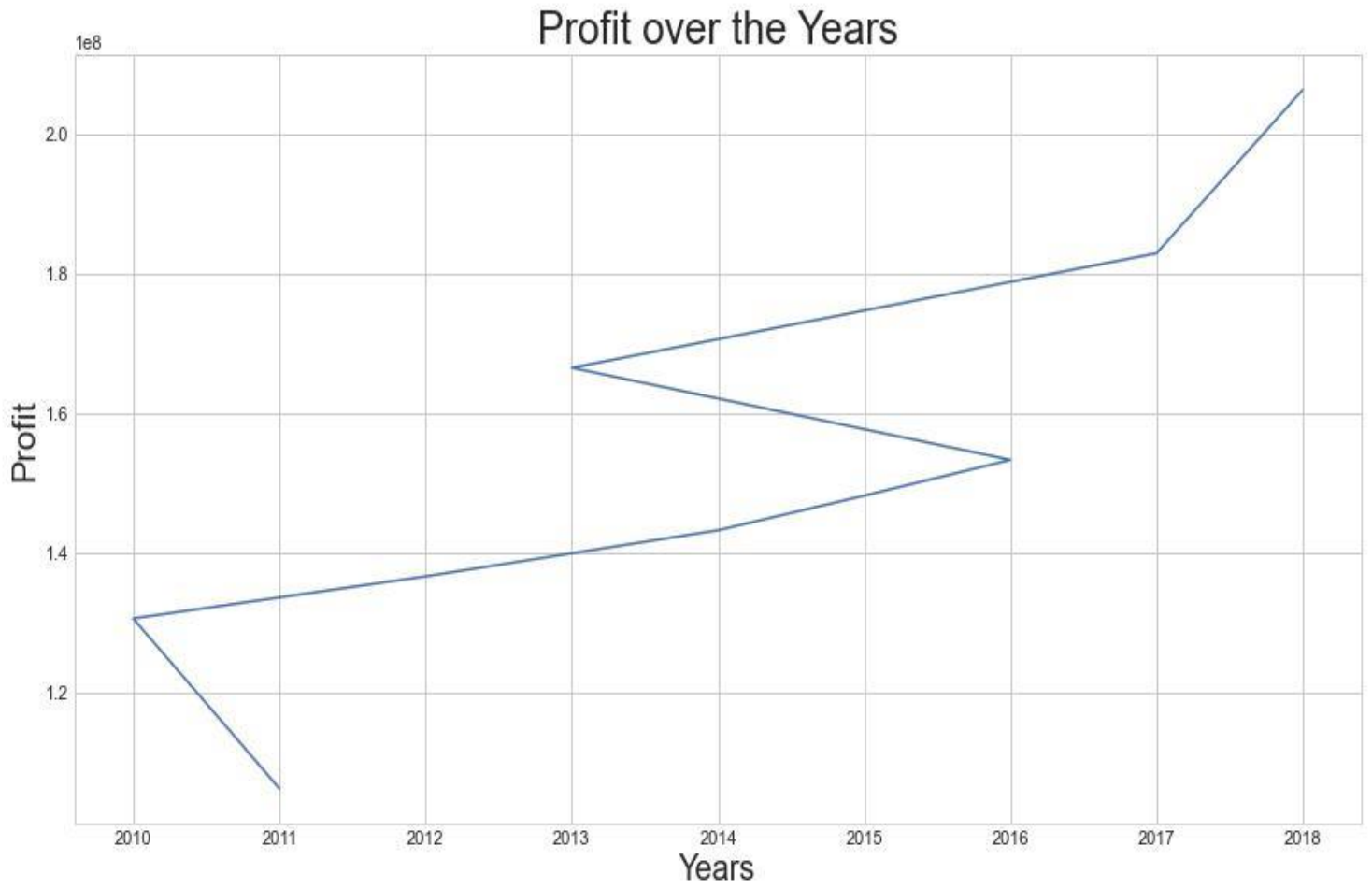
Key Findings

Relationship between budget and worldwide gross: weak positive correlation



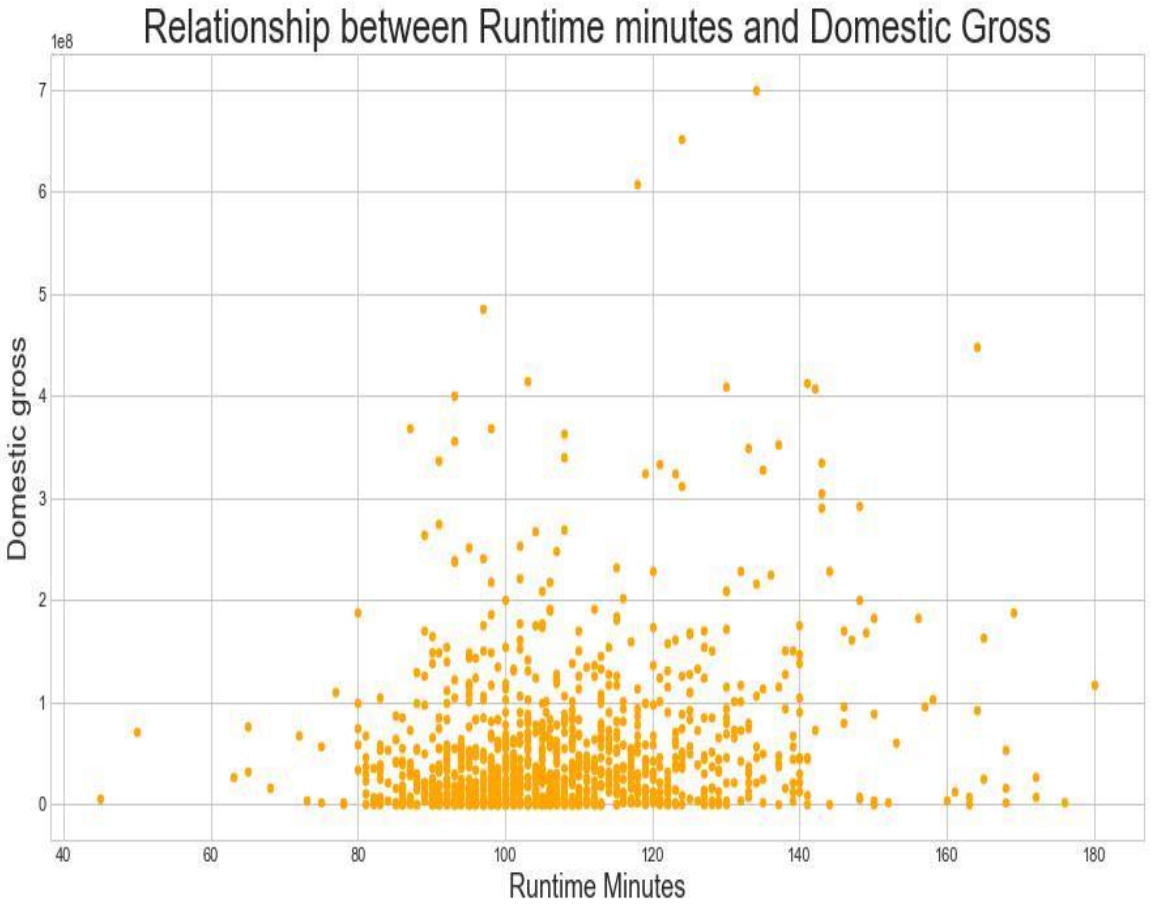
Key Findings

The trajectory of profit from movies over the years



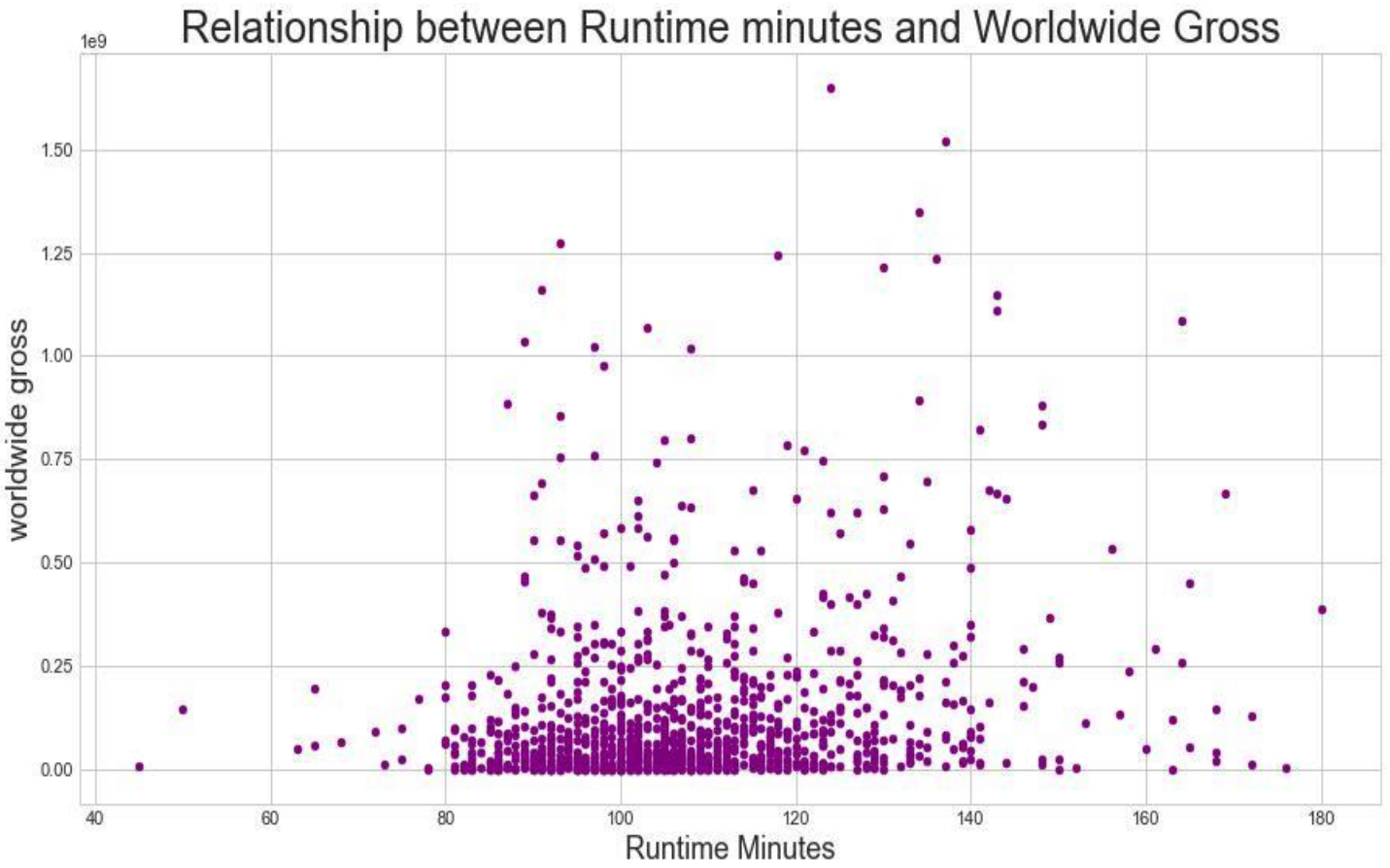
Key Findings

The relationship between runtime and domestic gross: no correlation

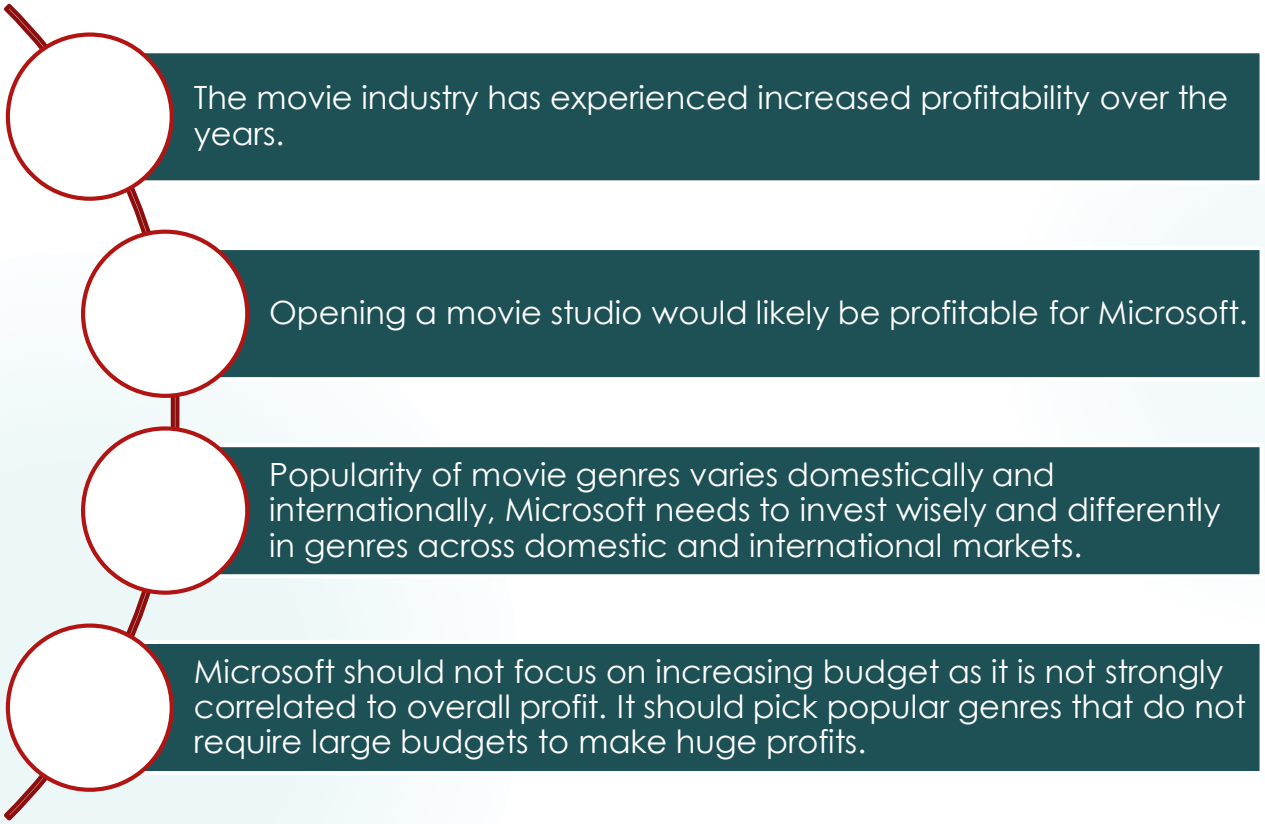


Key Findings

The relationship between runtime and worldwide gross: no correlation



Recommendations



Conclusion

- Ratings and runtime minutes are not correlated with gross earnings or profit.
- Top competitors for Microsoft would be P/DW, BV, Sony, Fox and Universal Studios.
- Top profitable genres to produce are adventure, drama, sport and comedy, mystery and adventure, drama and sci-fi.
- The production budget has a very low to no correlation to profits.
- Weak correlation between production budget and domestic and worldwide gross box office earnings.
- Microsoft has the potential of making a profit and competing in this industry if it invests in the right genres.